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"Every day there is a new America—a changed America," says SCS Administrator Grant in his message this month. Hopefully, every day's changes will bring about an improved America. Warren Zitzmann, SCS urban planning specialist, in his article, tells us how planning affects change and how important it is that communities plan for the future. Also in this issue—Gerald Root discusses a "guidance planning system" that can test the adequacy of land-use policies before they are implemented.

COVER: An apartment complex in Rheem, California, *planned* and built to *stay* on the hillside. Precautions were taken to reduce the danger of landslide.

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We can help invent the future

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Community planning —who needs it?

by Warren T. Zitzmann
Urban planning specialist
Resource Development Division, SCS
Washington, D.C.

You and your neighbors need community planning—

• If you want your community to be a good place to live, to work, and to play—for people of all ages and all economic levels.

• If you want community decisions made on the basis of all the facts adequately analyzed and all opinions considered rather than on who is complaining the loudest.

• If you want community improvements designed to meet the needs of 5, 10, and 20 years into the future rather than those made just to solve today's crises.

• If you want your education, recreation, transportation, and utility programs coordinated so that they complement and strengthen each other rather than work at cross purposes.

• If you want your community to work cooperatively and effectively with its surrounding rural areas and neighboring communities, and with state and federal governments in attaining maximum results from financial and technical aid.

• If you want your tax monies to be budgeted so that costly capital improvements are anticipated up to 5 years in advance thus avoiding unexpected jumps in tax rates.

• If you want stable, steadily growing land values based on a confidence in consistent community development policies rather than wild speculation based on rumor or "inside" information that produces a boom or bust psychology.

• If you want a local government that is sensitive to people and their environment and responsive to the needs of this generation as well as the next.

Promises, promises

Community planning may promise a lot, and you may be properly skeptical. Too often community planning is given a weak beginning by just creating a planning commission without staff or adequate budget and then as the years drift by nothing much has changed. The reasons for a planning program failing to live up to advance promises are many. They include:

• People assume community planning is easy—that setting up a planning commission automatically insures effective planning. They fail to understand the commitment to "community self-discipline," which is involved.

• People assume it is highly technical and too complicated for the average citizen to

understand and therefore is a job to be turned over to outside experts.

• People underestimate the amount of plain hard work and the number of meetings necessary to establish full communication of ideas between leaders and laymen, technicians and politicians, private interests and public interests, and those who see only the quick buck and those who see the long haul.

• People lack the perseverance and patience to resolve all of the conflicting community goals in a democratic procedure, which is the essence of governmental planning in our society.

• People responsible for leading the planning program seldom fully understand what community planning is all about, so they settle for bits and pieces, such as a zoning ordinance or a recreation plan, thereby mistaking a set of wheels or an engine for a fully functioning whole automobile.

Characteristics of a complete planning program

First, planning must be recognized as a continuing function of government. It is not a one-shot job such as preparing a set of plans for a building. It would be just as foolish to hire a planner to prepare, in a few months, a comprehensive plan for the next 20 years, as it would be to hire an attorney to prepare, in a few months, all the laws the community would need for the next 20 years. Planning is properly described as a continuing process needing continuing professional help.

Second, a major and essential product of the planning process is a comprehensive plan. Many planning agencies have consumed much time and money in gathering and analyzing data on social, economic, and physical problems of the community. Most will even proceed to draft proposals for alternative solutions to these problems. But few have attained the significant goal of having a comprehensive plan officially adopted by the political body and the functional agencies that are in a position to carry out the plan. This means adoption by the elected officials and endorsement by the conservation district, school board, recreation board, highway department, utilities department, and other agencies having responsibilities for actually building various parts of our communities.

Third, the comprehensive plan, having been adopted, *must* be followed by a series of implementation activities. These include—

• Adopting a capital improvements program that sets priorities and financing arrangements for the planned improvements on a long-term schedule.

• Adopting a zoning ordinance that regulates the types and intensities of land use and development.

• Adopting subdivision regulations that set standards for the layout of new streets and lots and the required public improvements such as pavements, water and sewer facilities, and surface water drainage.

• Adopting regulations based on soils and water data, for flood-plain development, controlling erosion, ground-water recharge areas, and preserving prime agricultural land. These regulations can be incorporated in zoning, subdivision regulations, or both.

• Adopting an official map that designates lands to be preserved for future public use, such as schools, parks, and water-storage sites, until the public agency has the opportunity to act to acquire them.

• Adopting housing, building, and other codes that upgrade the quality of existing structures and set adequate standards for new construction.

• Creating an economic development agency with authority to acquire land and develop such facilities as an industrial park.

• Creating an open-space land agency with authority to acquire or obtain development easements on land needed for streambelt environmental corridors or other open-space areas.

Putting it all together

The key to a successful planning program is the community recognizing the importance of having both a continuing planning process and a comprehensive plan, which together produce the appropriate implementation activities. Emphasis is given to the continuing process in order to respond to the frequently heard criticism of the comprehensive plan as a static document that discourages change and flexibility. The comprehensive plan should be subject to re-evaluation and change at regular intervals, that is, whenever new or changed goals are materializing in the community, whenever there is a change of political leadership, or whenever new and unanticipated external forces exert themselves on the community. Planning is a dynamic process that responds as needs change, but responding to change does not lessen the need for the community to have an adopted comprehensive plan at any given time.

Can we afford to plan?

This question might better be put in another way—can we afford not to plan? Even the smallest of communities anticipating a population decline rather than growth has a need to plan, because change of any sort can always be modified to achieve better conditions if the community has a positive plan to meet its problems. The Boy Scout motto, "Be Prepared," is an endorsement of the planning concept. To illustrate, many small communities desperately need industry to provide new jobs. But frequently, when an industry approaches a community, inquiring about sites, it catches the community unprepared. Town leaders begin to scurry around to find out who has what to sell at what price and to determine if they can provide necessary streets, utilities, and other requirements. An industry being wooed by a hundred competing communities is not likely to wait several months for a community to come up with firm specific answers. The community with a well-planned and serviced industrial area is much more likely to be a successful competitor.

Making use of federal and state aid programs for all kinds of public facilities is another economic argument for planning. Governmental grants are increasingly made contingent on the availability of a comprehensive plan adopted by the local government. The obvious reason for this is to insure that individual grants will fit together in a coordinated system. Few local governments can afford to miss out on such financial aid. But even if no outside aid is involved, planning can still be worth the investment because local funds, both public and private, will go farther under a planning program.

Because of the cost, only a few communities of under 20,000 population have their own full-time professional planning staff. A workable solution for the smaller communities is to share a staff with neighboring communities, the county, or a multicounty planning agency. In some states the state planning agency will make a planner available on a contract basis. The important thing is to have continuing professional planning resources available.

Is planning only for urban areas?

The need for planning exists just as strongly at the township, county, or multicounty level as in cities. The governmental unit, regardless of how urbanized it is, has a limited supply of natural resources, such as land and water; human resources, meaning people and their health, education, and skills; and financial resources in both private and public capital. There are competing demands on these resources, and planning is the way to resolve these demands, resulting in both short-term and long-term benefits for the entire community.

The role of the conservation district

The conservation district can contribute significantly to the effectiveness of a planning program.

First, its data on the natural resources of the area can help in determining the effect of both urban and agricultural land uses on these resources. The district should participate in preparing the natural resources element of the comprehensive plan.

Second, the district can contribute technical help in both the drafting and the subsequent administration of those regulations dealing with characteristics of soil and water. Such considerations are increasingly a part of zoning and subdivision regulations, building codes, erosion and land-altering ordinances, and other regulatory devices.

Third, the district can contribute to a better public understanding and support of the planning program. The community leadership represented by the district is essential in stimulating and sustaining public support for the planning effort.

If at first you don't succeed

Literally thousands of planning agencies have been activated in the United States during the past 20 years. The passage of the Federal Comprehensive Planning Assistance Program in 1954 was a great stimulant to small community planning. Many planning efforts have floundered after a few years, however, because the community was inadequately prepared to understand and utilize a fully developed planning program.

Don't let an earlier failure or partial success discourage your community from another effort. If you have not yet tried a community planning program, it is never too late to start. The results can be well worth the effort—or to use a more popular phrase—try it, you'll like it. ♦

Mountain luck

by Ronald Arrendale
Conservation technician, SCS
Blairsville, Georgia

The solution to many problems requires money; the solution to some problems requires luck. The renovation of Blairsville Municipal Airport in Georgia was brought about by luck —and a lot of volunteer muscle.

The airport was constructed in 1963; it serves Union, Fannin, and Towns Counties, three heavily forested counties in the Georgia Appalachians.

The airport site had a serious erosion problem. Large gullies ran adjacent to the runway; the only vegetation was broomsage and a few scattered Virginia pines. Surface runoff, and particularly runoff from the asphalt runway, had played havoc with the adjacent backslopes.

Pilots were becoming concerned because the gullying had spread to the safety strip. A slight miscalculation in landing could have propelled a plane into a ditch. There was talk of closing the airport.

Back in 1968, Billy Tomlinson, the SCS district conservationist, and I were asked to look over the site. We saw that the erosion problem was critical.

The Blue Ridge Mountain Soil Conservation District recommended prompt action in stabilizing the area, but unfortunately the airport authority was somewhat lacking in loose cash. Running the airport, it seems, took up all the funds.

Two unrelated developments in 1969 changed the entire situation.

In the fall of 1969, the Beautification-Through-Conservation Awards Program was organized by the Georgia Association of Conservation Districts and the Electric Membership Corporation. This program brought about the formation of concerned citizens into the Union County Beautification Committee. The number one priority of the committee was the restoration of the airport.

At about the same time, at a Technical Action Panel meeting which I attended, a representative of the state employment agency announced that the agency was starting a "manpower development school" to train local men in operating heavy equipment. The school would be looking for a project in the area that could provide learning experience for the trainees. The project had to be big, so the school could bring all types of heavy equipment into play. And it had to be on public land.

The one insurmountable obstacle to stabilizing the airport had been the airport authority's inability to pay the cost of the heavy earthmoving equipment. Suddenly, there was the heavy equipment, just sitting there looking for a job to do for free.

A few months later, the school director looked over the airport site and decided it fitted his needs. The manpower school would do the work, he said, but the airport would have to pay for fuel for the equipment.

The airport was over the hump but not out of the woods. The fuel cost was estimated at $900. Where could Blairsville Airport

get that kind of money? And if the site were graded, it would have to be revegetated. Where would the seed come from, and the fertilizer?

The airport authority contacted the Blairsville city government. Would the city be willing to pay about $1,100 for fuel? The city was willing.

Steve Carver, a supervisor of the Blue Ridge Mountain Soil Conservation District, then contacted the Union County government. The county agreed to furnish enough lime, seed, and fertilizer to reseed the area following the grading, provided the airport authority could furnish the labor force.

Now the benefits from the training school were really in reach, but where could the airport get labor?

Meanwhile, our SCS soil scientist, C. L. McIntyre, had been called in to give soils information, and with this information Jerry Boling, the new district conservationist in Blairsville, had prepared a plan for revegetating the airport.

The Manpower Development Training School began its work at the airport in July 1970. The most seriously eroded areas, those adjacent to the safety strip, were graded and reshaped. Steep areas were gently sloped; waterways and water disposal areas were constructed to provide outlets for the runoff from the landing strip. The work was completed in October.

(Opposite page) The Manpower Development Training School helped Blairsville Municipal Airport solve its erosion problems.

(Above and below) Vegetation has stabilized the airport site and has stopped the gullying.

The city had helped; the county had helped; now the people were going to help. Robert L. Head, a member of the airport authority, worked with Robert W. Jones, a local businessman, in contacting people all over the county. People were asked to donate their time, their money, and their tractors to get the seed in the ground.

And they did. They prepared a seedbed and seeded the entire area in 1 week. The area was seeded to sericea lespedeza, crimson clover, and fescue. Rye was seeded as a nurse crop, to give quick cover for soil protection until the slower growing sericea and fescue took over.

By the spring of 1971, the cover was well established.

Sometimes I wonder why everybody was willing to help—to reach into their pockets, roll up their sleeves, and pitch in. I think the Beautification-Through - Conservation Awards Program had a lot to do with it. That program captured the imagination of all of us here. It showed us that if people anywhere want something good, rural development or environmental improvement or whatever, they're going to have to work for it.♦

Natural resource planning for the 1980's

by Gerald W. Root
Assistant state resource conservationist, SCS
Harrisburg, Pennsylvania

In Bucks County, Pennsylvania, planners, natural resource technicians, and computer programers have teamed up to develop a "guidance planning system" that can test the adequacy of land-use policies before they are implemented. Thus far, the results look promising.

Development of the system began early in 1970 after the Bucks County Commissioners asked the County Planning Commission, the Natural Resources Division, and the Department of Parks and Recreation to prepare a natural resource plan for the county.

Recognizing that many plans become obsolete because they fail to treat change as a major factor, Franklin Wood, the Bucks County planning director, and his staff began looking for a new approach. After studying various planning systems, they selected a computerized guidance system because it offered three important advantages. First, because they spend less time in manipulating data, planners and decision makers have more time for analyzing issues and formulating policy. Second, a proposed policy could be pretested to avoid costly mistakes. Third, a plan could be started and updated as quickly as change takes place.

The system uses a computer to organize, store, and retrieve natural resource data by cells. Each cell represents a square, 1,000 feet on the ground, which covers 22.9 acres. A code locks each cell in the computer; a total of 17,862 cells are used to cover the county. For added accuracy, each cell is subdivided into ninths (2.55 acres).

Resource characteristics can be measured and recorded at four levels of detail for each cell. The simplest level is a *yes* or *no* situation in which a resource feature does or does not occur within a cell. When more detail is required, various digit values can be assigned.

For instance, if the location and description of streams is required, an "X" would be placed in any cell where a stream was located. To describe the stream in detail, "1" is used to indicate a swale, "2" to indicate a stream, "3" to indicate a river, and so on.

The third level can record population or other numeric data by cell, and a fourth level is used to determine the extent to which any cell is covered by a feature.

Using this cell system, tremendous volumes of resource data can be stored, organized, and retrieved as printout maps thus eliminating the need for preparing costly base maps. The location and description of all types of resource features—streams, lakes, rivers, swamps, marshes, watersheds, ground elevation, forest cover, historical and scenic features, soils, geologic strata, subdivisions, public utilities, land use, population, dwelling units, employment, and assessed evaluations—can be stored and printed out on the maps.

"It was no easy job to assemble and store the resource data we needed for planning," says Wood. "We used existing data wherever it was available and with good results.

"In putting together the soils data, district conservationist Merv Skiles, of the Soil Conservation Service, gave us the soil type and phase and the length and percent of slope. He also provided us with other soil characteristics for each soil type, including depth to water table, erodibility, flood hazard, drainage, and permeability. We cranked the Universal Soil Loss Equation into the computer to give us soil loss predictions for the different land uses," reports Wood.

The flexibility of map printouts is what makes the effort of gathering and storing these bits of data worthwhile, according to Wood's staff. Printout maps can be developed from the stored soils information for prime agricultural soils; wetland; cliffs and slopes; flood hazards; sources of topsoil, sand, stone, and gravel; soil permeability; and erodibility.

While developing the new system, Wood's staff prepared operational definitions for the critical natural features of the county. This is the first stage of policy formulation that can guide later planning activities. Generally, the lower the criteria, the broader the area of future consideration. For example, if prime agricultural soils are defined as those in

land capability class I, the printout map will identify few such areas in Bucks County. Hence, capability class I land would be a very critical resource in the county. But if the definition of prime agricultural soils is broadened to include land capability classes I, II, and III, far more areas would come under consideration, and the complexity of dealing with the resource would increase.

Evaluating and giving weights to critical natural features is the next step in plan development. Priorities for resource protection are established, and map overlays are used to combine resource features, resulting in a policy plan. This represents a major shift in emphasis from the traditional plan map to the policy plan. Under this system, use policies are based on the amount of resource protection needed to use, but not deplete, the resource base.

The computer is used in this step to weight all resource features in terms of their tolerance for various uses. Where the weighting of the various resource features is arbitrary, the computer may be used to test a variety of weights in experimental fashion. For example, to determine the natural areas that need the most protection, arbitrary weights for tolerance to use, ranging from 1 to 3, are assigned to each of the many individual resource features, such as erosion hazard, forest cover, flood hazard, ponds or lakes, historic or scenic sites, slope, and soil permeability. The higher the weighted value is for each feature, the more intolerant the resource feature is to certain uses.

The computer tabulates the weighted values for each resource by cell and then prints out a protection area map that indicates those areas which need extensive, moderate, or slight protection from use because of the intolerance of the resource base.

The last phase of plan development is establishing priorities and targets. Major resource use policies are tested by the computer. For example, one use policy might be to preserve land in capability classes I, II, and III for agriculture. A conflicting policy would be to protect areas where land values are low and where the most land can be preserved for each dollar spent. Both are valid planning concepts. By weighting and pretesting these with the computer, the areas where these policies can be implemented can be singled out and included in a plan.

Phase I, the critical natural resource feature, is complete. Phase II, the combining of individual resource feature overlays into a plan, is underway.

The same system has been used in park planning where natural features have been used to evaluate site suitability for specific recreation activities and the esthetic quality of the site. These were combined with such factors as accessibility to people, land value, distance from major existing facilities, ratio between supply and demand for specific facilities within an area, and probability of or threat from urban development. All are given weights and used to develop a plan map and a priority listing.

Franklin Wood and his staff are the first to admit that the system needs further refinement, but the computer has given them a planning flexibility that can deal with change. Perhaps this is the forerunner of natural resource planning of the 1980's. ♦

A sample computer printout map.

Growing watercress in a shopping center

by Otis M. Gryde
District conservationist, SCS
Honolulu, Hawaii

Farming in Hawaii generally moves out when the developer moves in.

Masaru Sumida's farm near Pearl Harbor, however, is staying where it is. Modern water and soil conservation practices have helped Sumida's 11-acre farm become a showplace. And the planner and developer of a $50 million shopping center, going up next to the farm, agreed that the farm would be an asset to the center.

The farm once was in rice, but in 1928 Sumida took it over and began to grow vegetables for the Honolulu market. Since World War II, he has concentrated on watercress.

In 1954, Sumida became a cooperator with the South Oahu Soil and Water Conservation District. Assisted by the district and the Soil Conservation Service, he has improved his irrigation and water management system. The SCS-designed water management plan has been incorporated into the farm's conservation plan.

Much of the 11 acres now in watercress was leveled and smoothed to allow for more efficient use of available water. The conservation leveling allows water to irrigate the watercress without causing erosion. The water continues on to Pearl Harbor in the same condition as when it came from the springs.

Pearl Ridge, a $50 million shopping center, forms a horseshoe around this watercress farm.

Sumida produces about 10 crops per year or about 45 tons of crops per week. Of this, about 10 tons per week is airshipped to the mainland. The rest goes to Honolulu markets and to military installations in the state.

"My farm probably is the only one surrounded by a shopping center," says Sumida. "Its green space will be a pleasing sight for shoppers." ♦

If you want a sediment-free lake . . .

by Mervin G. Danielson
State resource conservationist, SCS
Des Moines, Iowa

Armed with facts, figures, and strong feelings, citizen groups went to the Iowa Conservation Commission 3 years ago to protest the deteriorating condition of state-owned lakes.

The people were concerned about sediment building up in the lakes and about the high cost of removing it. The problem would not go away, they felt. And waiting would mean only worse water conditions and greater removal costs.

Some facts were known already. In 15 years, the capacity of Lake of Three Fires had been reduced by a third. Five years of dredging in North Twin Lake had cost $1 million. Siltation problems existed at Backbone, Darling, and Pine Lakes.

But was the situation as critical throughout Iowa? The response of the State Conservation Commission was to launch a study.

The commission requested help from the state's soil conservation districts and the Soil Conservation Service. It asked for resource inventories in every district that had a state-owned lake. Among other things, the inventory would show how much soil was leaving the area above the lake.

"When we know exactly where the sediment and other pollutants are coming from, we will be in a better position to stop them," says Everett Pierce, land management agent for the Iowa Conservation Commission. "We'd like to know, for example, what and how much is coming from roadsides, feedlots, and industrial or residential areas."

Twelve inventories are already finished. A dozen more should be ready a year from now.

Soil loss estimates are made by SCS. How much of the soil reaches the lakes is then determined by area engineers and the state watershed planning party.

The inventory also spells out land uses in the area under study, land treatment measures required for lake protection, kinds of wildlife and wildlife habitat, cost estimates for needed conservation practices, and an evaluation of the urgency of the sediment-reducing measures.

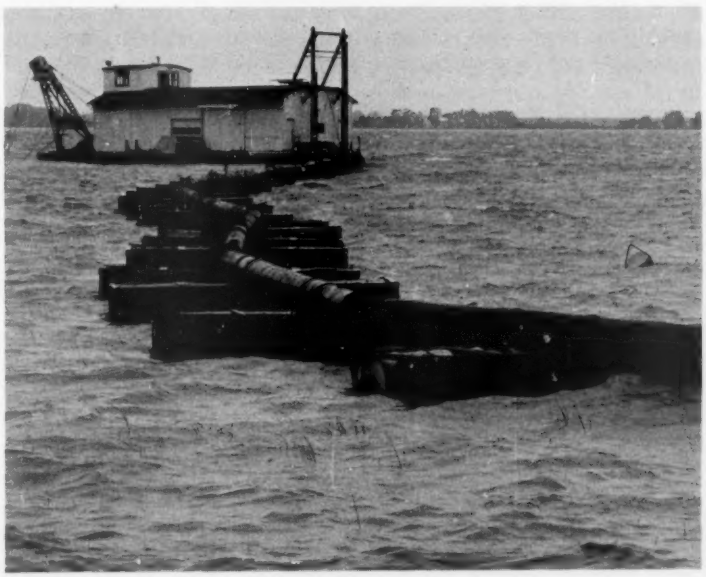
"In addition to the inventory," says Pierce, "in some lakes we're taking actual measurements of the silt with an electric depthometer. We think all this will give us a basis for planning the all-around protection of our lakes."

For the past few years, the commission has cost-shared conservation measures to protect the lakes from silt. Pierce feels this is a needed boost and hopes the Iowa Legislature continues to provide funds.

Another positive step came with action by the Legislature requiring conservation treatment on 75 percent of a lake's watershed.

It is also now the Iowa Conservation Commission's policy to withhold lake dredging until a lake's watershed is treated to prevent further siltation.

"Our lakes can be protected from siltation," says Pierce, "but it takes money and cooperation. I think people are realizing this and are ready to help." ♦



Dredging is not an inexpensive operation, Iowa Conservation Commission officials agree. It costs about $0.50 a cubic yard.

Planning to put it all together

by Edward G. Konieczny
District conservationist, SCS
Pittsfield, Massachusetts

In Massachusetts, Berkshire Conservation District supervisors planted a $3,000 financial seed that has grown into a $20,000 asset—a conservation education center.

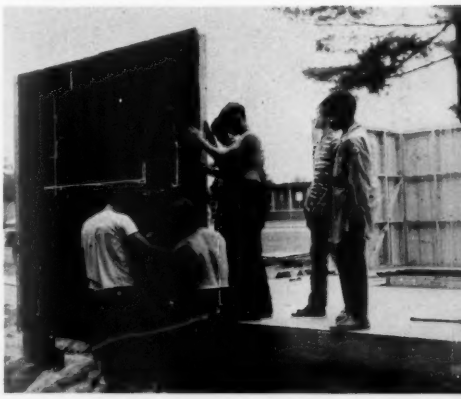
Mount Everett Regional School in Sheffield, a consolidated high school that serves the six rural towns of western Massachusetts' Southern Berkshire region, was faced with problems of properly utilizing its 70-acre site. The new school's administration turned to the Berkshire Conservation District and the Soil Conservation Service for resource planning help.

Among the suggestions offered was one that promised to enrich the curriculum while upgrading and protecting the property: involve students in resource planning through the development of a permanent conservation center on the school grounds.

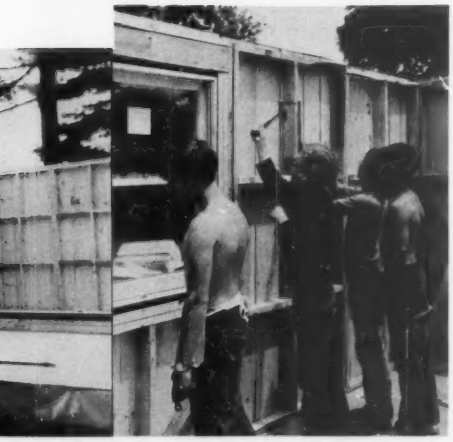
School officials liked the idea. They would do what they could with their limited budget. For its part, the Berkshire Conservation District sought backing for the school project from the Massachusetts State Committee on Soil, Water, and Related Resources. The committee responded with a $3,000 grant.

The conservation district had thus demonstrated, as the entire project would, that knowing where to turn for help can be a crucial part of environmental improvement.

School officials, using a site plan developed with Soil Conservation Service advice, launched work on the outdoor education center in the summer of 1970, hiring student workers with funds from the school's allocation for its work-study program. These students cleared trees and brush from the future pond site and laid out the essentials of a proposed 840-foot nature trail. The wet areas along the trail were bridged with slab wood. In the fall, excavation of the 60- by 80- by 8-foot pond began. It was



(Top) A rustic footbridge along the 840-foot nature trail. Tom Consolati, guidance counselor, directs the work.
(Left) Getting the banks along the pond ready for seeding.
(Above) The prefabricated sections were constructed in the school shop during the winter months.
(Right) Jim Shiminski, assistant principal and director of occupational education, helps with the assembly of the staging for the rafters and roofing.
(Extreme right) The conservation study center, a community project, nears completion.



completed early in the spring.

All of this effort, as well as the next year's campaign, was carried out under the direction of Tom Consolati, faculty adviser for work-study.

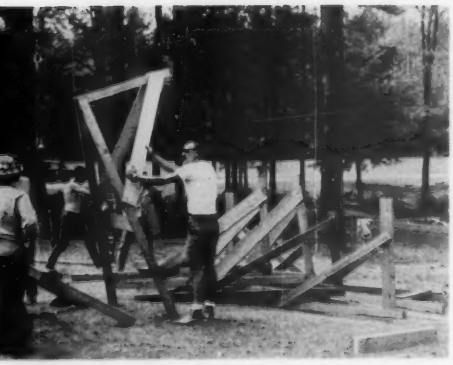
Through the good offices of the school and the conservation district, Jim Shiminski, assistant principal and director of occupational education and also the leader of the project, was successful in obtaining substantial backing elsewhere, in and outside the community. For example, part of the funds for the summer work force came through a grant from the Berkshire County Neighborhood Youth Corps. Moreover, Title I funds, under the Elementary and Secondary Education Act, were applied to offset a part of the adult supervision costs of the summer program. And the young workers used tools supplied by the school district, slab wood donated by a local sawmill operator, and building materials purchased with a $500 gift from a merchant in Berkshire County.

The second and final project phase—construction of a building for the nature center—got underway in the winter of 1970-71. The school's industrial arts shop class designed a 24- by 21-foot structure that was later prefabricated in the industrial shop and made ready for assembly on the outdoor site by work-study students in the summer. And, in fact, that summer the building did go up. Also, the still-raw pond banks were graded and seeded, and the nature trail was put into working—or, rather, studying—order.

Today, Mount Everett's nature study center and trail are being used intensively by high school science classes. Several fauna and flora identification projects are underway. Elementary school teachers are bringing their classes out to the pond and trail, too. And residents of Sheffield enjoy walking and bird watching along the trail.

The full value of this conservation education center is impossible to measure in dollars and cents. Who can accurately estimate, for example, even the informational value of a half-hour film about the project that the local television station made and that is being shown to town, civic, and social groups?

Still, the monetary value of the trail, pond, and building alone are now figured to be around $20,000. In view of the initial investment of $3,000, it seems fair to say that the cooperative effort of a school and conservation district along with other state, federal, and private donors has paid off handsomely —and the real dividends for the community will go on being paid for years to come. ♦



Save the valley, save the people

by Delbert L. Hansen
District conservationist, SCS
Heber City, Utah

For many Americans the need for two cars is being supplanted by the desire for two homes. People in cities along the Wasatch Front and from as far away as California, and even New York, are seeking a second home in beautiful Heber Valley.

Heber Valley affords four-season recreation: fishing in spring; hiking, golf, horseback riding in summer; hunting in the fall; and skiing in winter.

The valley, 40 miles east of Salt Lake City, is an area of 228,000 acres. Valley bottom lands take up 28,000 acres. Of the surrounding 200,000 mountainous acres, 48,000 acres are national forest land, 37,000 acres are state park land, and 115,000 acres are private rangeland.

There are two small cities in the valley—Heber City, with 3,200 people, and Midway, with 1,500 people—and three small towns. The total population of 6,000 has remained fairly constant in the last 10 years.

If the present influx continues, the population of the valley could grow to 200,000. Consulting planner, I. Dale Despain, believes this can happen unless sound guidelines for growth are developed.

The Wasatch Soil Conservation District Board, headed by Curtis Muir, recognized that the inherent beauty and natural resources of this area were attracting various kinds of developments. It was apparent that many of these developments could threaten the environmental quality of the area and create future problems.

The Wasatch County Commission, whose chairman is Russel Wall, was swamped with applications for developments. It decided to set up a county planning commission. Muir was appointed to this commission as the representative of the Wasatch Soil Conservation District.

Wall and Muir applied to the Soil Conservation Service and the state planning coordinator for help in developing a basic comprehensive or master plan with

Pastoral scenes like this may pass from Heber Valley in a few years if proposed development goes on.

sound goals and definite policies for directing future developments.

A meeting with representatives of all local organizations and federal and state agencies was the next step.

The Wasatch Soil Conservation District, county commissioners, and other local officials won the support of state and federal agencies, as well as of colleges and universities and the State Department of Public Instruction, in developing a basic "Resources Inventory and Guide."

Local organizations and supporting state organizations agreed on a cooperative approach that would result in communitywide environmental education.

As a first step, SCS completed two maps of the area and a soil survey. Map overlays are being made that will show soil limitations for various uses, including sewage disposal, foundation material in constructing low buildings and roads, and recreation developments.

Also being prepared along with the "Resources Inventory and Guide" is material for teaching environmental education in the Wasatch school system.

The consulting planner, Despain, is helping to organize a planning advisory council with committees to work on land use development, transportation, housing, and conservation renewal. The three commissioners and two mayors will each head one of the five committees. A soil conservation district supervisor will be a member of each committee.

About 500 residents of Heber Valley will make up the planning advisory committee. Total involvement is the objective.

The people of Heber Valley believe they can forestall haphazard development and protect the environmental quality they could have easily lost. They are glad that the threat was recognized in time. ♦

Can we do without soils information?

by Wilbur J. King

District conservationist, SCS
Birmingham, Alabama

In suburban Birmingham, Alabama, an expensive house stands on a prospect. Beside the house are a swimming pool and an elegant patio. The fence that once bordered the patio is now in ruins halfway down the bluff, half-buried in oozing, clayey mud. Landslides like the one that destroyed the fence will occur again and destroy the patio, then the pool, then the house.

The owner wants to save his house and has asked his conservation district and SCS for help. But there is no practical way to stop the landslides, according to SCS soil scientist David Lewis. "This entire area is made up of layers of sandstone and shale that have a tendency to slip and slide," says Lewis. "There's a fault on top of the hill, and that whole mountain is moving down into the valley. Where you have two sandstone layers, they rub together and there's friction, even when they're wet. But that shale is composed of silt and clay, and when that gets wet, it's just like a lubricant."

To the north of this area lies Homewood—population, 24,000. Much of Homewood is on the flood plain of Shades Creek.

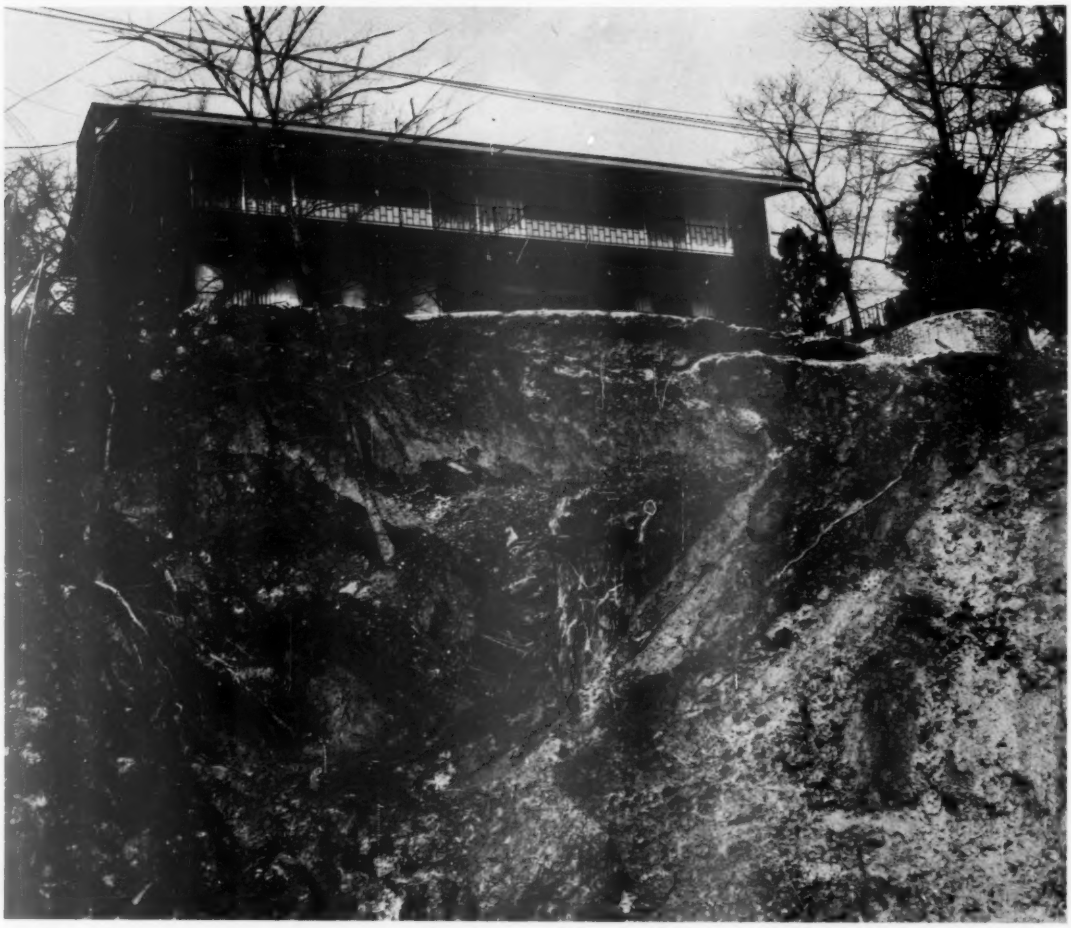
"In 1971 we had a 600 percent increase in construction over 1970," explains Homewood's director of Civil Defense, Marilyn W. Grubbs. "Twenty-two new businesses have come here in the past year. We are now the fifteenth largest city in Alabama.

"Our soil is the type that washes away very easily, and our creek is so undermined that its banks are continually collapsing. We now get such bad floods that every time it rains I begin to get calls for help at five in the morning. The floods of March 1970 were the worst so far. They brought us under the Federal Disaster Relief Act.

"After a rainstorm we spend a good deal of time cleaning out our ditches so they don't back up. But this activity doesn't solve anything, and where do we go for help?

"We're eligible for flood insurance, but flood insurance doesn't solve the problem either; it doesn't stop us from having to move out the people who are flooded."

Homewood, along with a host of other cities and towns, is part of expanding metropolitan Birmingham. Birmingham, a steel



What bad news is in store for this house?

town known to its inhabitants as the All America City and to others as the Pittsburgh of the South, is celebrating its 100th anniversary this year. Those 100 years have seen continual growth. Today Birmingham's metropolitan area extends into Jefferson, Shelby, and St. Clair Counties.

The clay soils and mountainous topography of the Southern Appalachians have somewhat restricted developers. But these natural limitations are sometimes ignored, and the results are developments such as the one in the landslide area and the one on the Shades Creek flood plain.

The SCS Jefferson County Work Unit is aware that dynamic metropolitan expansion, combined with the severe limitations of some soils, has placed them, as soil and water conservation specialists, in the mainstream of the area's land-use problems.

Their major task is working with groups and with planners. A good deal of time is spent with mayors—there are 34 in Jefferson County alone. SCS is making a major effort to provide soils information and interpretations not only to developers and other property owners but also to the decision makers who are planning Birmingham's future course.

One such man is William Bondarenko, acting director of the 6-county Birmingham Regional Planning Commission.

"When we started out on our regional comprehensive planning program, soil characteristics were a major part of our study," comments Bondarenko. "The bulk of the soils-related information dealt with topographic analysis, which helped identify potential building sites.

"Along with this kind of information, we need specific information that will pinpoint flooding. Such information would allow us to delineate sites susceptible to flooding and set them aside for special uses.

"As growth occurs, runoff increases almost geometrically; so as time goes by, flood plain identification becomes more necessary, especially in this urbanizing area.

"We can also use soils information in developing lakes or reservoirs for recreational use. We have enough water for municipal and industrial use, but we really lack water for recreational use.

"Regional planning is only one of our three functional divisions, the others being local planning and project development. We use soils data in our local planning program to deal with particular problems, such as sewer and water needs. In our evaluation of a particular piece of land, we use soil maps made by SCS soil scientists. In many cases, SCS information has been invaluable."

Perhaps the most thorough use of SCS information is by the Birmingham City Planning and Zoning Department.

William H. Moody, senior planner of the department, has summarized SCS soils interpretations according to severity of limitations. From this simplification, based on soils that have limitations for residences, businesses, and highways, a color-coded overlay that can be placed over the regular SCS maps has been designed.

William Moody, on the right, senior planner for the city of Birmingham, explains to the author how SCS soils information has been incorporated into the city's planning and zoning program.

Using the overlay, Moody or one of his fellow planners can identify land-use restrictions in any part of the city. If additional specifics are desired, the planners can return to the more detailed soils data.

The color-coded overlay is a helpful tool for the planning and zoning department, which must be able to quickly determine the soil hazards or limitations at a proposed development site within the city.

But the department also takes a long-range view of Birmingham. "We have a 20-year plan through 1990," reports Moody, "and 5-year programs within the plan. We're working on the suitability of the land, and this is where soil surveys will be used."

Moody doesn't feel that soil limitations are an immovable obstacle to development; in some cases the benefits of utilizing a location justify the costs of offsetting soil limitations. "Access is important," says Moody, "because if access is there, we might have the economics to overcome soil limitations. But if a decision is to be made, it should be made with full knowledge of the soil limitations."

Planners like Bondarenko and Moody, together with SCS soil scientists, know the value of soils information to an All America City like Birmingham. ♦

Game called—wet golf course.

conservation in action

Hunting preserve changed to Scout reservation

If officials of the Cherokee Area Council of the Boy Scouts of America have their way, Skymont Farm in Grundy County, Tennessee, will become one of the nation's top Boy Scout camps.

Skymont, once widely known for its fine quail and pheasant hunting, is at an elevation of 2,000 feet atop the Cumberland Plateau near Altamont, Tennessee. The location and the area's natural resources make the 2,700-acre facility an asset of almost unlimited value for furthering the scouting program in the Southeast.

The transition, however, from a hunting preserve to a Boy Scout camp does not occur overnight.

Following a detailed conservation plan, prepared with help from the Soil Conservation Service, Scout officials have started a remodeling program that will take about 20 years to complete. Using soil maps and woodland site index information furnished by SCS and the Grundy County Soil Conservation District, they have set aside about 800 acres of cleared land for planting to yellow poplar and loblolly pine. Cull hardwoods are to be removed and replaced with pine. Firebreaks and access roads are to be constructed as needed.

The reforestation program got underway last winter when Scouts from the Chattanooga and Grundy County area planted 50 acres of pine and yellow poplar. The Scouts had able supervision from Harvey Raper, the Scout camp ranger, and the local SCS district conservationist.

The long-range conservation plan also calls for enlarging one of the four lakes at Skymont, building two new lakes—a 30-acre lake and a 90-acre lake, and planting wildlife food plots.

Cost estimates for the 20-year remodeling effort run as high as $3.5 million.

Limited use of Skymont facilities began last year. Eventually, Skymont will be able to accommodate about 10,000 Scouts every year.

The old Skymont was famous for its upland game hunting, but Scout officials firmly believe that the new Skymont Scout Reservation, as a developer of youth, will be even more renowned.—LEE L. GRAHAM, *district conservationist, SCS, Tracy City, Tenn.* ♦

John Ward, Scout master from Fort Oglethorpe, Ga., Jesse Hawkins, Explorer adviser from Chattanooga, Tenn., a Boy Scout from Chattanooga, and Harvey Raper, camp ranger at Skymont, prepare to plant pines using the Grundy Soil Conservation District's tree planter.

Sullivan's bonanza

Sullivan County isn't number one in the state yet. But you'd best not say that in Sullivan County. Folks there have begun to suspect they have "the finest county in Indiana."

A few years ago, Sullivan County residents were more modest. They didn't have much choice: county land wasn't too valuable; county industry wasn't too intense. In short, the county's amenities were hard to find. For the last 50 years, the county's adventurous sons had been quietly packing up and leaving, headed for Chicago perhaps, or Indianapolis.

Then, Sullivan County got something that it had never had before—a lake. A prime lake. Although designed for flood control, the lake had potential for other purposes. The people of Sullivan County decided that using the lake for recreation would be a good investment. Sullivan County Park was built around the lake.

That was 2 years ago. Now the returns have come in, and come in, and come in. For the people of Sullivan County, the SCS-designed lake has proved to be a bonanza.

Dr. Noble H. Sevier, chairman of the Sullivan County Park Board (". . . ever since there has been a need for a park board," he said.), has put together an impressive list of benefits:

—Every day, evening, or weekend in summer, people are water skiing, fishing, boating, or swimming in Sullivan Lake.

Sullivan Lake has become a favorite recreation site in southern Indiana.

—The park and lake attracted 135,000 to 150,000 people to Sullivan County last year, and this year the figure is expected to be 175,000 to 200,000. Annual or seasonal passes to the park number about 1,100.

—The number of boats in the county has increased beyond all expectations, adding $42,510 to tax revenues.

—The number of travel trailers, campers, and motor homes also has soared. More and more people are camping in Sullivan Park and in the other camping sites in the county.

—The park and lake have increased land values in the surrounding area. Single lots are now selling for what 30 to 40 acres would have brought at prelake prices.

—The assessed evaluation of nearby Hamilton township alone has risen from $793,050 in 1964, the prelake period, to $1,492,200 in 1971.

—A 65-house subdivision being built near the lake will add substantially to the tax rolls.

—People in the county have developed a deep sense of pride in the county and their communities.

—New industry has come into the county, including two ladies garment industries, a modular home plant, and a packaging plant; the lumber and coal industries have expanded; and facilities in the banking and retail industries have been improved.

"See why we think we have the finest county in the state," remarks Sevier.—VINCENT J. PRICE, *Information Division, SCS, Washington, D.C.* ♦

Beauty in conservation

The value of conservation practices to the environment is well known. In the eyes of many, conservation also means beautification. Some conservation practices are particularly pleasing to the eye. Stripcropping, for example, not only can heal erosion scars but can add a touch of beauty to the landscape.

Stripcropping is perhaps the most widely used method of erosion control on Pennsylvania's farmlands. More than a million acres of contour strips have been established in the state in the past 36 years.

(Left) 'Arnot' bristly locust shows much promise as a plant that can help revegetate strip-mined areas. This 2-foot plant on acid mine waste produced a sucker 3 months after it was planted.

These strips, by keeping the soil in place, prevent silt from polluting streams. Clear, rippling streams are becoming increasingly scarce in Pennsylvania. To the thousands of trout fishermen who so eagerly take to the waters each spring, clear streams are a real treat.

Stripcropping in Pennsylvania got nationwide exposure a few years ago when a photograph of Stone Valley watershed—a valley of contour strips in Northumberland County—was selected to represent Pennsylvania in the "America the Beautiful" lithograph series.

In the last few years, the Soil Conservation Service has been active in critical-area planting, that is, planting suitable grasses, shrubs, and trees on severely eroded areas, especially acid mine spoil areas in the coal-mining regions. To date, about 25,000 acres have been reclaimed.

The beautification associated with these projects is obvious. In Pennsylvania alone, strip mining has left thousands of acres bare, eroded, and unsightly. Because the acid soils and high surface temperatures associated with most strip-mine refuse hinder natural reclamation of the land, SCS is continually searching for new and better plants that will withstand these conditions.

Promising plants such as 'Arnot' bristly locust, recently released by the SCS Plant Materials Center at Big Flats, New York, are used each spring to establish a vegetative cover on mine spoil areas. It is hoped that eventually lush fields of grass and dense stands of locust will cover the barren mine spoils.

Bare, unsightly roadbanks also are getting attention in the state. In both the Penn-Soil RC&D Project area of Erie, Crawford, Venango, and Mercer Counties and the Endless Mountains RC&D Project area of Tioga, Susquehanna, Bradford, Wyoming, and Sullivan Counties, planting roadbanks is a joint program between the RC&D project sponsors and the local townships. RC&D funds provide the plant materials, and the township provides the help to seed the banks. The banks are seeded with mixtures of birdsfoot trefoil, crownvetch, and fescue. Mercer County is also planting crabapple, forsythia, and hemlock where visibility is not a problem.

According to Dick Crowley, district conservationist in Mercer County, the roadbank seeding program has cut down on siltation tremendously and has helped beautify the area as well.

SCS conservation practices are not planned for beautification, but beauty is often an extra benefit. Farm ponds, flood-control lakes, tree plantations, flowering wildlife shrubs, and even the wildlife are features of the Pennsylvania countryside created or protected by the work of SCS.

Is there anyone to dispute that there is beauty in conservation? —CHARLES GENTRY, *resource conservationist, SCS, Somerset, Pennsylvania.* ♦

Environmental protection at Walker Field

Question: Has interagency review of environmental impact statements resulted in greater environmental protection?

Answer: "Yes," says Gus Byrom, manager of Walker Field, the airport at Grand Junction, Colorado.

Early in 1971, Gus Byrom informed the Soil Conservation Service office in Grand Junction that he had received a detailed request from the Environmental Protection Agency for an impact

statement on a large planned runway extension. The request alerted him to plan ahead to offset negative effects of the earthmoving operation.

The $2.5 million runway improvement was designed to meet requirements of the largest of today's jet liners. Because it involved stripping the vegetation from, and reshaping, a wide area, the airport manager asked for SCS recommendations on erosion control and revegetation.

The now-operational 3,000-foot extension of the main runway entailed moving about 2 million cubic yards of earth from an 80-acre borrow area into a 22-foot fill. The fill was then surfaced with 22 inches of asphalt.

Byrom met several times with SCS conservationists to discuss needed seedings and other measures for the borrow area. It was decided that the original Fruita sandy loam topsoil was to be stockpiled for later backfilling as a 4-inch cover.

Recommended seedings were carried out by the airport manager in cooperation with SCS and the local soil conservation district. Climatically adapted grasses were used in the mixture: Siberian wheatgrass, 3 pounds pure live seed per acre; Indian ricegrass, 3 pounds pure live seed per acre; western wheatgrass, 2 pounds pure live seed per acre; and four-wing saltbush, half a pound pure live seed per acre.

Seedbed preparation, drilling, and planting were completed in the fall of 1971. A sprinkler irrigation system was set up and operated for about 15 days. Good precipitation since then has added more moisture, and today the grass is at least 3 inches high and growing.—CLAYTON SPEARS, *soil scientist, SCS, and* JOHN DIXON, *district conservationist (retired) SCS, Grand Junction, Colo.* ♦

Where town and country meet

Farmers and ranchers do work with town people for a better environment—at least in Kiowa, Colorado, they do.

This little town in Elbert County has had a sediment problem for many years. Sand, silt, and other debris have been washing down into the Kiowa Elementary School playground, preventing the establishment of a good grass cover and creating a dusty, eye-watering condition whenever the wind blows.

School officials didn't like it and neither did the ranchers who owned land above the school.

Bob Johnson, one of the concerned ranchers and a member of the Kiowa School Board, was aware of both sides of the problem and wanted something to be done. He and the other concerned ranchers decided to ask the town of Kiowa, the Kiowa School Board, and the Elbert County commissioners to join them in working out a solution.

They took the problem to the Kiowa Soil Conservation District, and through the district got SCS help in developing a conservation plan for the small watershed. The plan called for a series of four small dams with drawdown pipes to catch the major part of the sediment and retard water runoff. The dams would keep the playground and rangeland free of sand and silt and allow the ranchers to revegetate their eroded gullies.

One month after the project began, the dams were completed. The Rural Environmental Assistance Program paid $4,500 of the total cost. The town of Kiowa and the Kiowa School Board paid the greater part of the remaining $1,400.—H. LANE THURMAN, *soil conservationist, SCS, Kiowa, Colorado.* ♦

An expanded Universal Soil Loss Equation

The Universal Soil Loss Equation (USLE), the method for predicting soil loss by sheet and rill erosion on a given site under a given cropping management system is being expanded for wider use.

For 8 years SCS people have been using the equation to add quantitative heft to their anti-erosion efforts. Instead of telling an Illinois farmer, "If you do that, you are going to lose a lot of soil," district conservationists have been able to say, "If you

do that, you will probably lose 20 tons of soil to the acre."

But there are only so many situations in which the equation applies. A major factor in the equation is "rainfall erosivity." The lack of this factor eliminated the entire western United States from the equation's applicability, because meteorological data on which to base the rainfall erosivity factor were unavailable west of the Rockies.

Another part of the equation, the "C" factor or cropping management factor, had been worked out only for cropped land, including hayland and improved pasture but excluding permanent pasture, woodland, rangeland, and idle land. This limited USLE's applicability even in the 37 eastern states.

Recently the agencies that developed the original equation, the Agricultural Research Service, the Soil Conservation Service, and several state agricultural experiment stations, teamed up again to expand its applicability to other land uses and to the western states.

They have computed an interim rainfall erosivity factor for the West's nonorographic areas, that is, areas where rainfall possesses enough kinetic energy to cause soil erosion. In orographic areas, such as the "Palouse" in Washington and Oregon, much of the rain falls as drizzle. The major cause of erosion in these areas is runoff rather than intensive rains. The factor for these orographic regions should be available this fall.

The soil erodibility or "K" factor, is also needed in the West. Now that the rainfall erosivity factor is becoming available, "K" factors are being developed for the western states by SCS soil scientists in cooperation with SCS state and regional agronomists.

But what about the "C" factor? In November 1971, ARS and SCS established the cover factors for undisturbed land. For example, for woodland, variables within the "C" factor include tree canopy, forest litter, and underbrush.

After the values of this factor were agreed upon, a final review was made by SCS agricultural engineer R. C. Barnes, Jr., SCS sedimentation geologist John Holeman, and SCS agronomist Joseph Turelle, working with project leader Walter H. Wischmeier of ARS. The information will be given a broader review and then will be made available to all state offices.

Not only will the expanded soil-loss equation provide another tool for making sheet and rill erosion estimates for SCS work in watershed projects, river basin studies, and RC&D projects, but it will soon be available to such diverse land owners and operators as California farmers, Colorado ranchers, Maine foresters, and suburban developers in the West.—VINCENT J. PRICE, *Information Division, SCS, Washington, D.C.* ♦

All it took was a phone call

The city of West New York, located on the New Jersey side of the Hudson River in densely populated Hudson County, had not asked for technical assistance from any county, state, or federal agency in 27 years.

Then, in June 1971, Mayor Anthony M. DeFino placed a call to the office of the Northeast Jersey Soil Conservation District. He asked for help in managing severe problems of drainage and soil erosion at two of the city's recreation parks, one of them a stadium where greats of the old Negro National League, like Josh Gibson and Roy Campanella, once played. The new municipal government had been in office only 3 weeks when the request was made.

Part of the urban tangle, West New York has few parks and little open space. What it has amounts to approximately 10 acres. Its 60,000 people are crowded into an area less than a square mile in size. By federal standards, more than half the population lives in poverty.

The Soil Conservation Service, assisting the conservation district, conducted onsite studies of Miller Stadium and Memorial Park and prepared specific recommendations for action.

For Miller Stadium, these included the installation of underground drains, some minor land grading, sodding, and seeding. For Memorial Park, several diversions as well as seeding were recommended.

The Miller Stadium drainage and grading work is now complete. With funds already allocated by the city, all recommended conservation treatment measures should soon be in place.

Mayor DeFino had expected the upgrading of the park and stadium to cost tens of thousands of dollars. In fact, a total outlay of several thousand is all that has been required to implement the SCS-backed conservation plan and restore to the residents of West New York their potentially excellent recreation facilities.—ELMER F. SAUER, *district conservationist, SCS, Morristown, New Jersey.* ♦

From the Administrator:

We can help invent the future

Every day there is a new America—a changed America.

A community that lets each tomorrow just happen is left in a position of having to react to changes that catch it by surprise. And surprises can be unpleasant.

Hundreds of communities are no longer satisfied with that approach and have begun to plan their future. The results vary widely, and of course surprises still come. But carefully planned and conceived things *get done*. A community can achieve much of what its residents want in the years to come.

The first requirement of planning is to get started!

The second is to put some effort into planning. It must be more than setting up a planning commission and expecting it to do all the work with bargain-basement support.

The third is to recognize planning as a continuing function of government at all levels. Plans are not an end product. They must not only be developed, adopted, and implemented by the people but also be re-evaluated and changed as the community, its surroundings, its people, and its ideas change.

The fourth is to think full circle. Planning for one or a few community needs in isolation —bits and pieces—may result in conflicts with other parts of the community, in unnecessary costs, and in a lot of missed opportunities. There is a limited supply of resources—natural, human, and financial—and competing demands for them. Beyond this we need to consider the first, second, third, and fourth effects of planned actions.

The fifth is to plan with natural resources in mind and not in spite of them. Man can manipulate soil and water and other parts of the environment in many ways to serve his aims—but sometimes the environment strikes back. Increased flooding, soil slippage, sediment pollution, and other ills too often are associated directly with community growth. Scarce resources such as prime farmland or plant and animal species or scenic areas may be needlessly usurped or destroyed.

Helping adapt community aims to the natural resources at hand is a growing role for the Soil Conservation Service and the local conservation districts through which its assistance is given.

SCS and districts can provide many useful natural resource facts. We don't stop there —we're involved in the process all the way from the use of resource facts in decisions about land uses, through implementation of plans, to conservation treatment of land in all uses.

Communities that want to make their own future have the responsibility to take stock of their own resources to do the planning job, involve their citizens fully in the process, and seek out all the sources of help available, such as SCS and conservation districts.

Likewise, SCS employees and conservation district leaders have a responsibility to take the initiative in pointing out to the communities in which they live and work the planning opportunities and environmental considerations that exist.

The result will be a better America for all of us.

Kenneth E. Grant

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